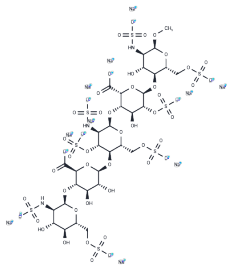
Data Sheet (Cat.No.T4076)

TargetMol

Fondaparinux sodium

Chemical Properties



CAS No. : 114870-03-0

Formula: C31H43N3Na10O49S8

Molecular Weight: 1728.08

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Fondaparinux sodium (Arixtra, SR-90107A) is a synthetic heparin anticoagulant and an antithrombin-dependent factor Xa inhibitor (IC50=1909 nM), with high selectivity, low immunogenicity, and favorable pharmacokinetic properties, used for the prevention and treatment of thrombotic diseases.
Targets(IC50)	Factor Xa
In vitro	**Methods**: Purified human antithrombin III and factor Xa were used, and the inhibitory activity of Fondaparinux sodium against factor Xa was determined by chromogenic substrate assay. **Results**: The Kd value of Fondaparinux sodium for antithrombin III was 48±11 nM, which increased the inhibition rate of antithrombin III against factor Xa by 340-fold, confirming its indirect inhibition of factor Xa through selective binding to antithrombin III. [1] **Methods**: Ovarian cancer OVCAR-3 and gastric signet ring cell carcinoma KATO-III cell lines were used. Cell supernatants were collected and co-incubated with Fondaparinux sodium (10^6 cells, 37℃, 2 hours, pH 5.0), and residual anti-Xa activity was detected to evaluate its degradation. **Results**: After incubation with OVCAR-3 and KATO-III cell supernatants, the residual activity of Fondaparinux sodium was 70% and 80% of control, respectively, indicating that cancer cell-derived heparanase can degrade Fondaparinux sodium under acidic conditions. [2]
In vivo	**Methods**: A Wistar rat venous thrombosis model was used. Fondaparinux sodium was administered by single subcutaneous injection at 300 IU/kg, thrombosis was induced 1 hour after dosing, and thrombi were harvested and weighed 30 minutes later; the control group received saline. **Results**: Compared with the saline group, Fondaparinux sodium significantly reduced venous thrombus weight (P<0.05), confirming its in vivo antithrombotic effect.[3]

Solubility Information

Solubility	H2O: 17.36 mM,Sonication is recommended. DMSO: 60 mg/mL (34.72 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.5787 mL	2.8934 mL	5.7868 mL
5 mM	0.1157 mL	0.5787 mL	1.1574 mL
10 mM	0.0579 mL	0.2893 mL	0.5787 mL
50 mM	0.0116 mL	0.0579 mL	0.1157 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Zhang, Yiran et al. The clinical use of Fondaparinux: A synthetic heparin pentasaccharide. Progress in molecular biology and translational science vol. 163 (2019): 41-53.

Fourgeaud, C et al. PO-23 - Expression of heparanase in cancer as biomarker of malignancies: overexpression in an aggressive, poor survival gastric cancer gastric signet ring cell carcinoma compared with that of other gastric cancers. Thrombosis research vol. 140 Suppl 1 (2016): S184-5.

Zhang, Guo-Qiang et al. An efficient anticoagulant candidate: Characterization, synthesis and in vivo study of a fondaparinux analogue Rrt1. 17. European journal of medicinal chemistry vol. 126 (2017): 1039-1055.